PENDING CLAIMS AS AMENDED

Please amend the claims as follows:

1.   (Original) A method for decoding a message transmitted in a wireless communication system supporting packet data transmission, wherein a packet is divided into a number of subpackets, the method comprising:

>   determining a set of hypotheses for decoding the message, wherein the set of hypotheses includes all combinations of available data rate and the number of subpackets;

>   using historical transmission information to reduce the set of hypotheses; and

>   decoding the message using each of the reduced set of hypotheses.

2.   (New) The method as in claim 1, wherein the message is a reverse rate indicator.

3.   (New) The method as in claim 2, wherein each RRI codeword carries, N_{Info} information bits, satisfying:

$$2^{N_{Info}} \geq N_{rate} \times N_{group} , \tag{1}$$

wherein N_{rate} is the total number of available data rates, and N_{group} is the maximum number of subgroups for a transmission packet.

4.   (New) The method as in claim 2, further comprising:

>   determining metrics for each possible state for a received reverse rate indicator;

>   updating the metrics;

>   determining a sequence detection window length;

>   evaluating metrics for each state over the detection window length; and

>   selecting a reverse rate indicator symbol based on the maximum metric.

5.   (New) The method as in claim 4, wherein determining a set of hypothesis comprises correlating the received reverse rate indicator with possible reverse rate indicator codewords.

6.   (New) The method as in claim 4, further comprising:

comparing energy of the reverse rate indicator symbol to a threshold value; and

rejecting the reverse rate indicator symbol if the energy is below the threshold value.

7.   (New) The method as in claim 4, wherein each reverse rate indicator word has a payload identifier x, and a subpacket identifier y, and corresponding state (x, y).

8.   (New) The method as in claim 7, wherein determining metrics, further comprises:

determining a metric for each reverse rate indicator state based on when a most recent acknowledge message was sent.

9.   (New) An apparatus for decoding a message transmitted in a wireless communication system supporting packet data transmission, wherein a packet is divided into a number of subpackets, the apparatus comprising:

means for determining a set of hypotheses for decoding the message, wherein the set of hypotheses includes all combinations of available data rate and the number of subpackets;

means for using historical transmission information to reduce the set of hypotheses; and

means for decoding the message using each of the reduced set of hypotheses.

10.   (New) The apparatus as in claim 9, wherein the message is a reverse rate indicator.

11.   (New) The apparatus as in claim 10, wherein each RRI codeword carries, N_{Info} information bits, satisfying:

$$2^{N_{Info}} \geq N_{rate} \times N_{group},$$

wherein N_{rate} is the total number of available data rates, and N_{group} is the maximum number of subgroups for a transmission packet.

12. (New) The apparatus as in claim 10, further comprising:

means for determining metrics for each possible state for a received reverse rate indicator;

means for updating the metrics;

means for determining a sequence detection window length;

means for evaluating metrics for each state over the detection window length; and

means for selecting a reverse rate indicator symbol based on the maximum metric.

13. (New) The apparatus as in claim 12, wherein means for determining a set of hypothesis comprises means for correlating the received reverse rate indicator with possible reverse rate indicator codewords.

14. (New) The apparatus as in claim 12, further comprising:

means for comparing energy of the reverse rate indicator symbol to a threshold value; and

means for rejecting the reverse rate indicator symbol if the energy is below the threshold value.

15. (New) The apparatus as in claim 12, wherein each reverse rate indicator word has a payload identifier x, and a subpacket identifier y, and corresponding state (x, y).

16. (New) The apparatus as in claim 15, wherein means for determining metrics, further comprises:

means for determining a metric for each reverse rate indicator state based on when a most recent acknowledge message was sent.